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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,716	02/14/2002	William R. Young	125.010US01	2081
7590	01/06/2004		EXAMINER SALATA, ANTHONY J	
SCOTT LUNDBERG FOGG & ASSOCIATES, LLC P.O. BOX 581339 MINNEAPOLIS, MN 55458-1339			ART UNIT 2837	
PAPER NUMBER				

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,716

Applicant(s)

YOUNG ET AL.

Examiner

Jonathan Salata

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36-45 and 50-57 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-16,22,26-31,33,34 and 46-48 is/are rejected.
- 7) ☒ Claim(s) 17-21,23-25,32,35,49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Paper No: 12302003
Serial Number: 10/076716
Filing Date: February 14, 2002

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

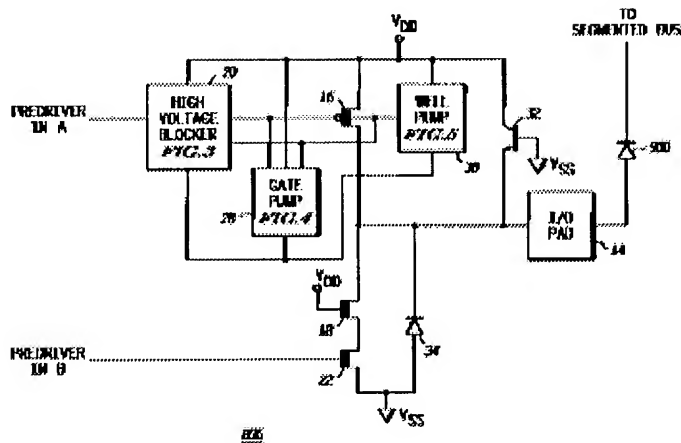
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,4,5,14-16,46-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al (6046897).

Smith et al teaches in figures 1-9, a segmented bus system for ESD protection.

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**FIG. 9**

1,46) Bus lines BUS1,BUS2. Pad 14 connected to source, drain via 32,34. Figure 9

illustrates isolation diode 900. Charge pump 810,816.

2,28) Diodes 810,816 precharge higher than 3.3 V.

4,5,) Diode 900.

14-16) Figure 8 illustrates Bus lines BUS1,BUS2. Diode 900 couples pad 14. More than one pad may be present.

47) See figure 2.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-13,22,26-31,33,34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al and Ker et al (6144542).

Smith et al does not illustrate the shared bus discharge.

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Ker et al teaches that for effective ESD protection with separated power lines, it is advantageous to provide bi-directional diode strings between power lines to supply the ESD to a clamp to discharge multiple pads.

Figures 6-16 illustrate several embodiments of the Bus connections. The elements can be any number of controlled devices that provide directional control.

Thus, to utilize bi-directional connections between buses in an ESD system would have been an obvious engineering design choice to one of ordinary skill in the art in order to provide protection for multiple pads and reduce the number of diode strings.

5. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al and applicants admitted prior art.

Applicant states on page 10-11 that any unidirectional device may be utilized as the steering diode. Thus, the substitution is considered a matter of convenience.

6. Claims 36-45,50-57 are allowed.

7. Claims 3,17-21,23-25,32,35,49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The particulars of the charge pump, negative bus connections, third voltage connection are not shown or reasonably suggested within the cited art of record.

8. Applicant's arguments filed 12-8-03 have been fully considered but they are not persuasive. Applicant cites col. 12 lines 41-44,50-54, which do state that elements 810,816 are diodes.

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However further review of the reference states on col. 13, lines 13-14 state that "Diodes 810,816 precharge the segmented ESD buses during normal operation". Lines 15-20 state the capacitive load.

Thus, although figure 9 is described as a diode by the reference, it clearly teaches the elements required by the claimed invention. Figure 9 was pointed out in the rejection under 35 USC 102(b).

The figure has been added to the rejection as this statement appears to have been missed.

No other arguments appear to be presented other than the charge pump of claims 1,14,26,46.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. A shortened statutory period for response to this action is set to expire 3 months from the date of this letter.

Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Any inquiry of a general nature or relating to the **status** of this application or **filing of papers** should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Papers related to this application may be submitted to Group 2800 by facsimile transmission. Papers should be faxed to Group 2800 via the PTO 2800 Fax Center located at

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Crystal Plaza 4. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 O.G. 30 (November 15, 1989). The Group 2800 CP 4 Fax Center number is (703) 308-77(22 or 24).

For assistance in **Patent procedure, fees or general Patent questions** calls should be directed to the **Patents Assistance Center (PAC)** whose telephone number is **800-786-9199**. Assistance is also available on the Internet at www.uspto.gov.

For requesting **copies** of Cited Art, Office Actions or the like, or General Problem solving, calls should be directed to the TC 2800 Customer Service Office whose telephone number is 703-306-3329 or by fax at 703-306-5515.

Any inquiry concerning **this communication or earlier communications from the examiner** should be directed to **Jonathan Salata** whose telephone number is (703) 308-3120. The examiner can normally be reached on Monday through Thursday from 6:30 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached on (703) 308-3370.

ajs
December 30, 2003


JONATHAN SALATA
PRIMARY EXAMINER
ART UNIT 2837